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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,386	07/29/2003	Yassin Aden Awad	5243-042-US01	6529

79184 7590 06/28/2010  
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EXAMINER
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VU, MICHAEL T

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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06/28/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/629,386	<b>Applicant(s)</b> AWAD ET AL.	
	<b>Examiner</b> MICHAEL T. VU	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-3, 6-29 have been considered but are moot in view of the new ground(s) of rejection.

### *Information Disclosure Statement*

2. The information disclosure statement (IDS) submitted on 04/20/2010, 04/27/2010, 01/09/2010 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

3. The Applicant added new claims 24-29.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-3, 6-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlman et al (US 2002/0010001) in view of Sartori et al (6,683,916), and further in view of Larsson et al (5,241,690).**

**Regarding claims 1, 19, 20, 21, 22 and 23**, Dahlman teaches an adaptive modulation and coding method (different modulation and coding schemes [0003], [0006]) comprising:

selecting one of a plurality of different available modulation and coding levels to apply to a signal transmitted from a transmitter to a receiver (selecting, adjusting and changing the modulation and coding scheme [0003, 0006-00010], the selection being based on a comparison between a signal transmission quality and a threshold value (comparing with a threshold [0008, 0031], [0041]);

leaving a selected modulation and coding level unchanged even though the comparison between a signal transmission quality and the threshold value indicates that the modulation and coding level should be increased (Figure #4 shows comparing values for the different modulation and coding schemes, [0041]), when the transmitted signal is not successfully received at the receiver (channel quality of the receiver, [0003-0004]); and

adjusting the threshold value when the signal transmission quality is within a predetermined range of the threshold value (Figure #4 shows adjusting, comparing values for the different modulation and coding schemes, [0003] [0007], and [0031] [0037]), and

Dahlman fails to show maintaining the threshold value unchanged when the signal transmission quality is outside that range.

However, Sartori teaches maintaining the threshold value unchanged when the signal transmission quality is outside that range (Col. 2 lines 12-63), and (Figures #3-4 shows the signal quality value remained unchanged).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dahlman, with Sartori's teaching, in order to provide the efficient use of power control and power allocation to allow for the highest combined data throughput over the various streams to increase signal quality utilized by receiver.

Further in view of Larsson teaches a method of adjusting the transmission power when transmitting signals between a mobile station and a base station in a digital mobile telephony system and measurement values, and/or maintaining the transmission power, and decrease and increase the transmission power (Col. 2 lines 29 to Col. 3 line 31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dahlman, with Larssons' system, in order to control the transmission power in radio communication between a mobile station and a base station in an effectively, or efficiently such as quality of signal strength.

**Regarding claim 2,** Dahlman, Sartori and Larsson teach the method as claimed in claim 1, Dahlman further teach wherein the signal transmission quality is a signal-to-interference ratio [0004, 0006].

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**Regarding claim 3**, Dahlman, Sartori and Larsson teach the method as claimed in claim 1, Dahlman further teach wherein the signal transmission quality is measured by the receiver (receiver measured signal, [0003-0004]).

**Regarding claim 6**, Dahlman, Sartori and Larsson teach the method as claimed in claim 4, Dahlman further teach wherein the upward amount is different from the downward amount [0004], [0013-0015].

**Regarding claim 7**, the Dahlman, Sartori and Larsson teach the method as claimed in claim 6, Dahlman further teach wherein the downward amount is smaller than the upward amount (power control [0007-0010]).

**Regarding claim 8**, Dahlman, Sartori and Larsson teach the method as claimed in claim 4, Dahlman further teach wherein a ratio of the downward amount to the upward amount is dependent upon a target error rate of the received signal (error correction, [0003, 0010-0010]).

**Regarding claim 9**, Dahlman, Sartori and Larsson teach the method as claimed in claim 4, Dahlman further teach wherein the downward amount **and/or** the upward amount is/are dependent upon a difference between the threshold value (Figure 4 shows the threshold value).

**Regarding claim 10**, Dahlman, Sartori and Larsson teach the method as claimed in claim 9, Dahlman further teach wherein each the amount increases as the difference decreases (Figure 4 shows the threshold value that decrease or increase the values).

**Regarding claim 11**, Dahlman, Sartori and Larsson teach the method as claimed in claim 1, Dahlman further teach having a threshold value for each pair of adjacent the levels (Figure 4 shows the threshold value), and in the selecting step the selection is based on a comparison between the signal transmission quality (Figure 4 shows the threshold value).

**Regarding claim 12**, Dahlman, Sartori and Larsson teach the method as claimed in claim 11, Dahlman further teach wherein each the threshold value is adjusted only when the signal transmission quality is within a predetermined range of the threshold value concerned (Figure 4 shows the threshold value by adjusting, increasing, decreasing the values).

**Regarding claim 13**, Dahlman, Sartori and Larsson teach the method as claimed in claim 12, Dahlman further teach wherein the predetermined range for at least one the threshold value is different from the predetermined range for another the threshold value (Figure 4 shows the threshold value).

**Regarding claim 14,** Dahlman, Sartori and Larsson teach the method as claimed in claim 1, Dahlman further teach wherein the adjusting step and the selecting step are carried out in the receiver [0003, 0007], and the receiver reports the selected level to the transmitter (Figure 4 shows the threshold value by adjusting, increasing, decreasing the values).

**Regarding claim 15,** Dahlman, Sartori and Larsson teach the method as claimed in claim 1, Dahlman further teach wherein the receiver reports the signal transmission quality to the transmitter (report estimated quality, [0006-0007]), and the adjusting step and selecting step are carried out in the transmitter (Figure 4 shows the threshold value by adjusting, increasing, decreasing the values).

**Regarding claim 16,** Dahlman, Sartori and Larsson teach the method as claimed in claim 1, Dahlman further teach wherein the selecting step is carried out after the adjusting step (Figure 4 shows the threshold value), and in the selecting step selection of a higher level (Figure 4 shows the threshold value), if indicated by the comparison between the signal (Figure 4 shows the threshold value by adjusting, increasing, decreasing the values).

**Regarding claim 17,** Dahlman, Sartori and Larsson teach the method as claimed in claim 1, Dahlman further teach wherein the transmitter is a base station of a



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wireless communication system [0006-0007], and the receiver is a user equipment of the system (receiver, [0003, 006-0007]).

**Regarding claim 18**, Dahlman, Sartori and Larsson teach the method as claimed in claim 17, Dahlman further teach wherein the signal is a downlink packet access signal (from base station to UE, [0003, 0006-0007]).

6. **Claims 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlman in view of Sartori, Larsson, and further in view of Ahmed et al (5,946,346).**

**Regarding claims 24-29**, Dahlman, Sartori and Larsson teach the adaptive modulation and coding method of claims 1, 19, 20, 21, 22, 23, **but Dahlman, Sartori, Larsson** wherein in the adjusting step the threshold value is increased by an upward amount when the signal received by the receiver fails a cyclic redundancy check, and is decreased by a downward amount when the received signal passes the cyclic redundancy check.

However, Ahmed teaches wherein in the adjusting step the threshold value is increased by an upward amount when the signal received by the receiver fails a cyclic redundancy check (CRC error not detected, Col. 7 lines 7-15), and is decreased by a downward amount when the received signal passes the cyclic redundancy check (threshold adjustment, decreased, Col. 7 lines 7-15).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dahlman, Sartori, Larsson, with Ahmed's system, in order to improve a system for controlling the power of a traffic channel in a wireless communications system for preventing interference.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Vu whose telephone number is (571) 272-8131. The examiner can normally be reached on 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Charles N. Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL T VU/  
Examiner, Art Unit 2617

/Charles N. Appiah/  
Supervisory Patent Examiner, Art Unit 2617